

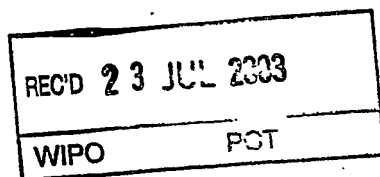


PCT/SE 03/01111  
17 JUL - 2003



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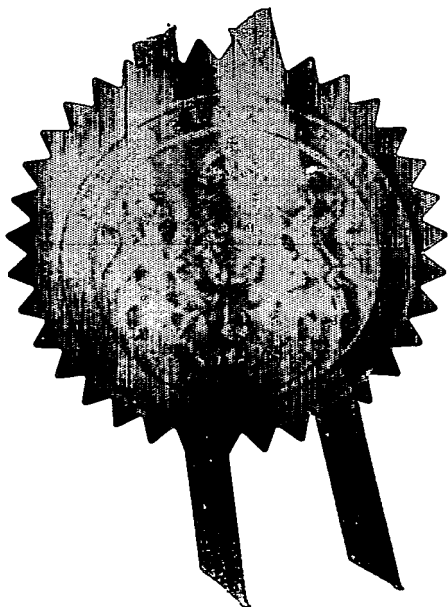


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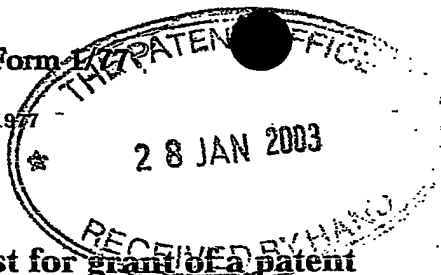


Signed *AmBrewer*

Dated 12 June 2003

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Patents Form 1

Patents Act 1977  
(Rule 16)

1/77

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(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road  
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1. Your reference

P17198GB-NF/jsd

2. Patent application number

(The Patent Office will fill in this part)

0301965.0

3. Full name, address and postcode of the or of each applicant (*underline all surnames*)

Autoliv Development AB,  
Patent Department Sweden,  
S-447 83 VARGARDA,  
Sweden.

Patents ADP number (*if you know it*)

321018006

If the applicant is a corporate body, give the country/state of its incorporation

Sweden

4. Title of the invention

"Improvements in or Relating to a Seat Belt Buckle Assembly"

5. Name of your agent (*if you have one*)

Forrester Ketley &amp; Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (*including the postcode*)

Forrester House  
52 Bounds Green Road  
London  
N11 2EY

Patents ADP number (*if you know it*)

133001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (*if you know it*) the or each application number

Country

Priority application number  
(*if you know it*)

Date of filing  
(*day / month / year*)

GB

0216900.1

19 July 2002

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(*day / month / year*)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (*Answer 'Yes' if*

Yes

a) *any applicant named in part 3 is not an inventor, or*b) *there is an inventor who is not named as an applicant, or*c) *any named applicant is a corporate body.*

See note (d))

**Patents Form 1/77**

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

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Description	5
Claim(s)	2
Abstract	1
Drawing(s)	1 <i>fc</i>

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent ( <i>Patents Form 7/77</i> )	1
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Request for preliminary examination and search ( <i>Patents Form 9/77</i> )	1
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Request for substantive examination  
(*Patents Form 10/77*)

Any other documents (please specify)	23/77
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11. ☒ We request the grant of a patent on the basis of this application.

Signature  
*Forrester Kelly & Co*  
Forrester Ketley & Co.

Date  
28 January, 2003

12. Name and daytime telephone number of person to contact in the United Kingdom
- FRANKLAND, Nigel H.  
(020) 8889 6622

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PATENTS ACT 1977

P17198GB - NHF/ns

5 DESCRIPTION OF INVENTION

“IMPROVEMENTS IN OR RELATING TO A SEAT BELT BUCKLE  
ASSEMBLY”

10

THE PRESENT INVENTION relates to a seat belt buckle assembly and more particularly relates to a seat belt buckle assembly for use as part of a seat belt arrangement in a motor vehicle such as a motor car.

15

A seat belt buckle must be located, within a motor vehicle, at a position where it may easily be found by an occupant of a vehicle attempting to fasten a safety belt in position, but the buckle should not be obtrusive.

20

Many seat belt buckle assemblies have been proposed previously, to be mounted easily in position within a motor vehicle. A typical buckle assembly incorporates an element extending from the buckle to an end piece or mounting plate, the mounting plate being provided with an aperture so that the mounting plate may be readily bolted to an anchor point provided within a motor vehicle.

25

There is, in some cases, a requirement for a very compact or small buckle assembly, especially where the buckle is to be positioned extremely close to the anchoring point.

The present invention seeks to provide an improved buckle assembly.

According to a first aspect of the present invention, there is provided a  
5 seat belt buckle assembly, the assembly having: a webbing strap, an end piece  
defining a slot to receive the webbing strap and a buckle, the buckle having a  
slot to receive the webbing strap; the webbing strap having a first portion  
extending through the slot in the end piece and secured to the main part of the  
webbing strap and a second portion passing through the slot in the buckle and  
10 secured to the main part of the webbing strap, one said portion being stitched  
directly to the main part of the webbing strap and the other portion being  
stitched to the combination of said one portion and the main part of the strap.

Preferably, the slot in the end piece and the slot in the buckle each have  
15 a width less than the width of the strap, portions of the strap being tucked in in  
the region of each slot, the stitching connecting the other end portion to the  
combination of the first end portion and the main region of the strap extending  
only through three super-imposed layers of strap.

20 Advantageously, the stitching securing the other end portion to the  
combination of the first end portion and the main part of the strap is of rhombic  
form.

According to another aspect of the present invention, there is provided a  
25 method of assembling a seat belt buckle assembly having a webbing strap, an  
end piece defining a slot to receive the webbing strap and a buckle defining a  
slot to receive the webbing strap; the method comprising the steps of: passing  
one end of the strap through the slot in the end piece; passing the other end of  
the strap through the slot in the buckle; securing a first end of the strap to the

main piece of the strap using stitching and subsequently securing the other end of the strap to the combination of the one end of the strap and the main piece of the buckle using stitching.

5        Preferably, the strap is wider than each of said slots, the method comprising the straps of tucking in parts of the strap adjacent each slot and performing the first stitching in a region where there are only two super-imposed layers of strap and performing the second stitching in a region where there are three super-imposed layers of strap.

10

Advantageously, said first end of the strap is passed through the slot in the end piece and the other end of the strap is passed through the slot in the buckle.

15

In order that the invention may be more readily understood, and so that further features thereof may be appreciated, the invention will now be described, by way of example, with reference to the accompanying drawings in which:

20

FIGURE 1 is a view of a webbing strap and an end piece; and

FIGURE 2 is a view of the webbing strap and end piece when secured to a seat belt buckle.

25

Referring initially to Figure 1 of the accompanying drawings, an end piece 1 is provided. The end piece 1 may be formed as a metal plate. Part of the metal plate defines an aperture or bolt hole 2 by means of which the end piece may be secured to an appropriate anchoring point within a vehicle. The end piece defines a further portion 3 provided with an oval slot 4. The slot 4, as

will become clear from the following description, is intended to receive an end part of a webbing strap.

A webbing strap 5 is provided, of elongate form. The strap 5 has a width which is greater than the length of the slot 4.

One end 6 of the webbing strap may be passed through the slot 4, side regions of the belt being tucked inwardly, as indicated in phantom, 7, so that the relatively wide strap 5 may be accommodated within the relatively short slot 4. The end piece 6 of the strap is super-imposed over the main region of the strap adjacent the end piece 1. The super-imposed regions are stitched using a square stitching pattern 8.

Subsequently the other end 9 of the strap is passed through a slot (not shown) having a configuration similar to the slot 4, provided within a seat belt buckle 10 as shown in Figure 2.

Again, due to the relationship between the width of the strap 5 and the length of the slot in the buckle 10, edge portions of the strap 5 have to be tucked inwardly, as indicated in phantom, 11. The end piece 9 of the strap, after passing through the slot in the buckle 5, is then super-imposed over the stitching 8. Further stitching is then carried out, the stitching only being effected in the region where there are three super-imposed layers of strap, that is to say, with the stitching not being effected in the region where strap is tucked in as shown in phantom of 7 and 11. A rhombic stitching pattern 12 may be utilised.

The stitching 12 is located completely between the buckle 10 and the end piece 1.

A buckle assembly is thus fabricated, the buckle assembly being very short. Thus the distance between the buckle 10 and the end piece 1 is minimal.

- 5 In the present specification "comprises" means "includes or consists of" and "comprising" means "including or consisting of".

- 10 The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.



## CLAIMS:

- 5 1. A seat belt buckle assembly, the assembly having: a webbing strap, an end piece defining a slot to receive the webbing strap and a buckle, the buckle having a slot to receive the webbing strap; the webbing strap having a first portion extending through the slot in the end piece and secured to the main part of the webbing strap and a second portion passing through the slot in the buckle  
10 and secured to the main part of the webbing strap; one said portion being stitched directly to the main part of the webbing strap and the other portion being stitched to the combination of said one portion and the main part of the strap.
- 15 2. An assembly according to Claim 1 wherein the slot in the end piece and the slot in the buckle each have a width less than the width of the strap; portions of the strap being tucked in in the region of each slot, the stitching connecting the other end portion to the combination of the first end portion and the main region of the strap extending only through three super-imposed layers of strap.
- 20 3. An assembly accordingly to Claim 2 wherein the stitching securing the other end portion to the combination of the first end portion and the main part of the strap is of rhombic form.
- 25 4. A method of assembling a seat belt buckle assembly having a webbing strap, an end piece defining a slot to receive the webbing strap and a buckle defining a slot to receive the webbing strap; the method comprising the steps of: passing one end of the strap through the slot in the end piece; passing the other end of the strap through the slot in the buckle; securing a first end of the

strap to the main piece of the strap using stitching and subsequently securing the other end of the strap to the combination of the one end of the strap and the main piece of the buckle using stitching.

- 5     5.     A method according to Claim 4 wherein the strap is wider than each of said slots, the method comprising the straps of tucking in parts of the strap adjacent each slot and performing the first stitching in a region where there are only two super-imposed layers of strap and performing the second stitching in a region where there are three super-imposed layers of strap.
- 10     6.     A method according to Claim 4 or 5 wherein said first end of the strap is passed through the slot in the end piece and the other end of the strap is passed through the slot in the buckle.
- 15     7.     A seat belt buckle arrangement substantially and described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.
8.     A method of assembling a seat belt buckle assembly substantially and described with reference to the accompanying drawings.
- 20     9.     Any novel feature or combination of features disclosed herein.

## ABSTRACT

5     **“IMPROVEMENTS IN OR RELATING TO A SEAT BELT BUCKLE  
ASSEMBLY”**

10     A seat-belt buckle has a webbing strap 5 to be connected to an end piece 1 which defines a slot 4. The strap has a first portion (6) which is passed through the slot and superimposed over the main region of the strap adjacent the end piece to be stitched by a stitching pattern 8. Another end (9) of the strap is passed through a slot in a seat-belt buckle 10 and is superimposed over the stitching 8 to be secured in position by additional stitching through the three superimposed layers of belt.

012

Fig. 1

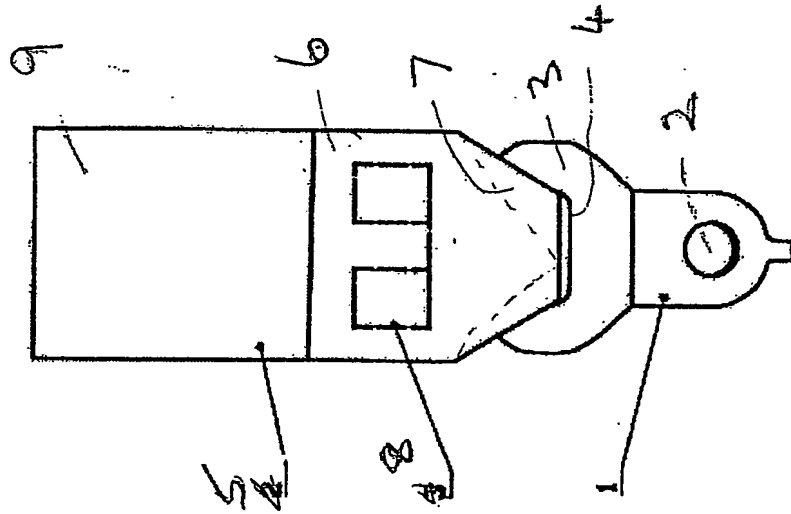
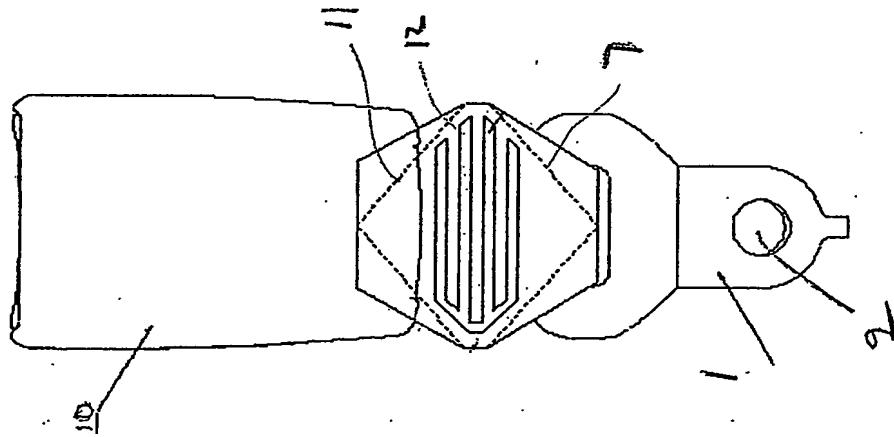


Fig. 2



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